

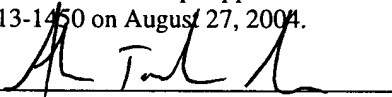


IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

IN RE APPLICATION OF: : LEMAN, Richard
SERIAL NO: : 09/700,811
FILED: : January 16, 2001
FOR: : A REMOTE TIRE PRESSURE
MONITORING SYSTEM
EXAMINER: : JENKINS, Jermaine
GROUP ART UNIT: : 2855
CUSTOMER NO.: : 02101
CONFIRMATION NO.: : 4275
ATTORNEY DOCKET NO.: : 2497/101

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 27, 2004.


Alexander Joseph Smolenski, Jr.

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an appeal from the final rejection of claims 11 to 19. No claims are allowed.

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REAL PARTY IN INTEREST

The real party in interest in this application is HCF Dynamics Limited, a company incorporated in the United Kingdom.

RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known to the Appellants, Appellants' legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the board's decision in the pending appeal.

STATUS OF THE CLAIMS

Claims 11 to 19 are pending in this application and have been finally rejected. Claims 1 to 10 were cancelled in the amendment filed April 21, 2003. The claims on appeal are set forth in the attached appendix.

STATUS OF THE AMENDMENTS

An amendment under Rule 116 was filed on March 19, 2004 in response to the final rejection of January 21, 2004. The revisions proposed in that amendment have not been entered.

SUMMARY OF THE INVENTION

The present invention (as claimed in claim 11 and claims depending therefrom) relates to a transponder for use in a tire pressure monitoring system for a vehicle which includes a plurality of remote tire pressure sensors connected to respective tires, wherein each pressure sensor is adapted to transmit a wireless signal with information about the condition of its respective tire. The transponder unit comprises: a receiver for receiving the transmitted wireless signals from the individual pressure sensors; a signal processor for processing the signals from the pressure sensors and generating a coded signal for wireless transmission which identifies the transponder unit and tire location; and a transmitter for transmitting the wireless coded signal to a remote receiver where information can be displayed to a driver about the tires associated with the transponder unit.

In an embodiment of the present invention, the transponder unit further comprises a memory to store a unique identification code to identify the transponder unit.

Support for the present invention is found throughout the application including, for example, at pages 1 to 7 and in the claims as originally filed.

The foregoing represents a concise summary of the invention.

THE ISSUES

The issues presented for review in this appeal are:

1. Whether claims 11 to 13, 16 and 17 are anticipated under 35 USC 102(b) by Handfield et al. (US 5731516).
2. Whether claim 14 is unpatentable under 35 USC 103(a) over Handfield et al.
3. Whether claims 15 and 19 are unpatentable under 35 USC 103(a) over Handfield et al. in view of McClelland (WO 96/15919).
4. Whether claim 18 is unpatentable under 35 USC 103(a) over Handfield et al. and McClelland, and further in view of Rosenfeld (US 5513524).

GROUPING OF THE CLAIMS

Claim 12 does not stand or fall with claims 11, 13 and 16. Pursuant to 37 CFR 1.192(c)(7), arguments are presented below as to why claim 12 is separately patentable.

ARGUMENTS

Rejection under 35 USC 102(b)

Claims 11 to 13, 16 and 17 stand rejected under 35 USC 102(b) as being anticipated by Handfield et al.

Claim 11:

In the inventive arrangement, a transponder unit receives wireless signals from tire pressure sensors, processes those signals to produce a coded signal for wireless transmission, and then transmits the coded signal for wireless transmission onward to a remote receiver. Thus, rather than simply transmitting signals directly from the tire pressure sensors to the remote receiver, the invention provides an intermediate

transponder unit.

In paragraph 2 of the final rejection, the Examiner asserts that Handfield et al. teaches "an apparatus for monitoring a tire comprising a transponder (22) receiving generated wireless signals from sensors (28, 30) from antenna (38), a signal processor (32) processing the sensor signals, and communicating the identified wireless signals to the transmitter (34) generated by the sensors for transmission by the antenna (36)... The identified signals are transmitted to the receiving unit (24) by antenna (38) comprising a receiver (40) that processes the received signal to the user interface (26) having a display unit for the vehicle operator". We submit that in making this assertion the Examiner has misinterpreted the teaching of Handfield et al.

Figure 1 of Handfield clearly shows a unit (22) in which a transmitter (34) receives wired signals from sensors (28, 30). This wired arrangement is confirmed by Figure 4, which shows a wire connection (148) between a pressure sensor (156) and a detector/transmitter circuit (147) of the unit. Meanwhile, antenna (38) is part of a separate receiver unit (24) receiving wireless signals from the antenna (36) of the unit (22).

Thus, Handfield does not teach a transponder unit which receives wireless signals from the tire pressure sensors, processes those signals, and transmits the processed signals to a remote receiver. Instead, in Handfield, wireless signals are transmitted directly from locally of the pressure sensors to a receiver which can display information to the driver (column 6 lines 34 to 36).

Accordingly, if the receiver (40) of Handfield is identified with the receiver of claim 11, there is nothing in Handfield that can be read onto the "signal processor" feature of claim 11. Note that the signal processor feature of claim 11 requires the signal processor to process "the signals" to generate "a coded signal for wireless transmission". The only antecedent basis for "the" in "the signals" is the transmitted wireless signals referred to in the "receiver" feature - note that these are the same signals as the "wireless signal" of the preamble. No processor in Handfield processes the transmitted wireless signals to generate a coded signal for wireless transmission. The Examiner identifies detector 32 as the signal processor but this does not process "the signals" i.e. the wirelessly transmitted signals.

Moreover, it is not possible to read the transmitter of Handfield onto the transmitter of claim 1, since no transmitter of Handfield transmits the "wireless coded signal". The use of "the" clarifies that this signal must be the wireless coded signal already referred to, i.e. a coded signal for wireless transmission obtained by the signal processor from received wireless signals.

Thus, it is respectfully submitted that it is not possible to read Handfield simultaneously onto all of the features of claim 1. Each and every element of a claim must be described in a reference, either expressly or inherently, in order for the claim to be anticipated under 35 USC 102. *Verdegaal Bros. v. Union Oil Co. of Cal.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Accordingly, it is respectfully submitted that the objection under 35 USC 102 against claim 11 is not well founded.

Claim 12:

Claim 12 is dependent on claim 11, thereby incorporating all of the features of claim 11, and is allowable for the same reasons as discussed above with respect to claim 11. Claim 12 is also separately patentable for the following reason.

In paragraph 2 of the final rejection, the Examiner asserts that Handfield et al. teaches "the use of a Random Access Memory device that stores the received signals". However, the Appellant submits that this Random Access Memory is not a feature of the transponder, as required by claim 12. Instead, the Random Access Memory taught by Handfield et al. is a feature of a receiver unit, as shown in Figure 10a.

Accordingly, the Appellant submits that claim 12 is not anticipated by Handfield et al.

Claims 13, 16 and 17:

Claims 13, 16 and 17 are dependent on claim 11, thereby incorporating all of the features of claim 11, and are allowable for the same reasons as discussed above with respect to claim 11.

Rejection under 35 USC 103(a)

Claim 14 stands rejected under 35 USC 103(a) as being unpatentable over Handfield et al. Claims 15 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Handfield et al. in view of McClelland. Claim 18 stands rejected under 35 USC 103(a) as being unpatentable over Handfield et al. and McClelland, and further in view of Rosenfield.

Claim 14, 15, 18 and 19:

Claim 14, 15, 18 and 19 are dependent on claim 11, thereby incorporating all of the features of claim 11. Claim 11, and thus claims 14, 15, 18 and 19, provides a transponder unit for use in a remote tire pressure monitoring system for a vehicle. The transponder unit comprises a receiver for receiving wireless signals from remote pressure sensors and a transmitter for transmitting wireless signals to a remote receiver, as described above. The transponder unit is therefore for provision intermediate the remote pressure sensors and the remote receiver, in terms of the flow of data signals.

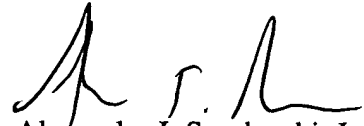
The transponder unit, when mounted on a vehicle trailer and receiving wireless signals from remote pressure sensors of the vehicle trailer, allows a remote receiver unit in a vehicle cab to distinguish between wireless signals from the remote pressure sensors of the vehicle trailer and other pressure sensors in the vicinity without the need for individual registration of each remote pressure sensor every time the vehicle trailer is changed. Instead, only registration of the transponder unit is required when the vehicle trailer is changed. The transponder unit thus leads to significant efficiencies in operating a tire pressure monitoring system.

None of the above-cited prior art documents discloses or suggests an arrangement having an intermediate wireless transponder, as required by the present claims. Further, the Appellant submits that a person of ordinary skill in the art would have had no motivation to consider such an arrangement because wireless transmitter/receiver applications do not usually involve intermediate wireless transponders.

The Appellant accordingly submits that claims 14, 15, 18 and 19 would not have been obvious to one of ordinary skill in the art at the time the invention was made.

In view of the above, reversal of the rejection is submitted to be in order and the same is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'A. J. Smolenski, Jr.', with a stylized, cursive script.

Alexander J. Smolenski, Jr.
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02497/00101 331050.1

APPENDIXListing of Pending Claims:

11. A transponder unit for use in a remote tire pressure monitoring system for a vehicle which includes a plurality of remote tire pressure sensors connected to respective tires, wherein each pressure sensor is adapted to transmit a wireless signal with information about the condition of its respective tire, the transponder unit comprising:

a receiver for receiving the transmitted wireless signals from the individual pressure sensors;

a signal processor for processing the signals from the pressure sensors and generating a coded signal for wireless transmission which identifies the transponder unit and tire location; and,

a transmitter for transmitting the wireless coded signal to a remote receiver where information can be displayed to a driver about the tires associated with the transponder unit.

12. A transponder unit according to claim 11, further comprising a memory to store a unique identification code to identify the transponder unit.

13. A remote tire pressure monitoring system comprising a transponder unit according to claim 11, in combination with a cab unit, the cab unit comprising:

a receiver for receiving the wireless coded signal from the transponder unit;

a signal processor for detecting and decoding the coded signal; and,

a display for providing the driver with information about the condition of the tires associated with the transponder unit.

14. A remote tire pressure monitoring system according to claim 13, further comprising a vehicle trailer on which the transponder unit is mounted.

15. A remote type pressure monitoring system according to claim 13, in which the remote tire pressure sensors are battery-powered tire pressure sensors, each battery-powered tire pressure sensor comprising:

- a pressure transducer for sensing a pressure of a tire and providing a tire pressure signal;

- a transmitter;

- a signal processor connected to the pressure transducer for providing a signal dependent on the tire pressure signal to the transmitter; and

- a timing circuit connected to the signal processor which is configured to automatically switch the tire pressure sensor on periodically for a predetermined interval to measure the tire pressure and switch off the tire pressure sensor at all other times to conserve battery power in which the timing circuit comprises a timer and a switch, the timer being configured to periodically actuate the switch and thereby connect the pressure sensor to the battery to turn the tire pressure sensor on for said predetermined interval.

16. A vehicle comprising a cab unit and a trailer unit connectable to the cab unit, comprising a remote tire pressure monitoring system according to claim 13.

17. A vehicle according to claim 16, in which the transponder unit is responsive to transmit an identification signal to the remote receiver when power is first supplied to the transponder unit.

18. A vehicle according to claim 17, in which power is supplied to the transponder unit by activation of the vehicle brake light line.

19. A vehicle according to claim 16, wherein the receiver of the transponder unit has a processor programmed to recognise transmissions from sensors connected to wheels of the trailer and ignore all others.



Practitioner's Docket No. 2497/101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent application of: Richard Leman

Application No.: 09/700,811

Filed: 01/16/2001

For: A Remote Tire Pressure Monitoring System

Group No.: 2855

Examiner: Jenkins, J.

Mail Stop Appeal Briefs – Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION--37 C.F.R. § 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on June 30, 2004.
2. STATUS OF APPLICANT

This application is on behalf of a small entity. A statement was already filed.

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*

(When using Express Mail, the Express Mail label number is mandatory;
Express Mail certification is optional.)

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37 C.F.R. § 1.8(a)

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37 C.F.R. § 1.10*

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Signature

Date: August 27, 2004

Alexander J. Smolenski, Jr.

(type or print name of person certifying)

* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 1.17(c), the fee for filing the Appeal Brief is:

small entity \$165.00

Appeal Brief fee due \$165.00

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee \$165.00
Extension fee (if any) \$0.00

TOTAL FEE DUE \$165.00

6. FEE PAYMENT

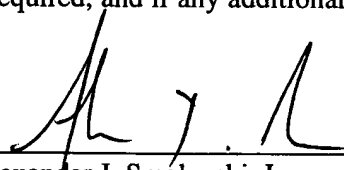
Attached is a check in the amount of \$165.00.

A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

If any additional extension and/or fee is required, and if any additional fee for claims is required, charge Deposit Account No. 19-4972.

Date: August 27, 2004



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